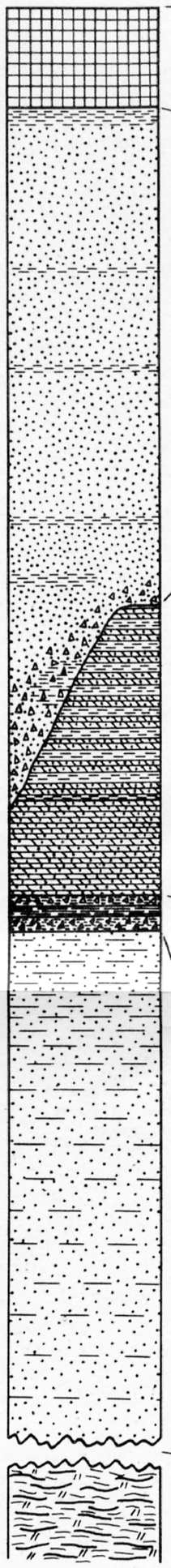

Major unit	Subdivision	Description	Thickness (in feet)	Fe (percent)	Remarks
MAGNETIC IRONSTONE (Not known to be present in this area)		Upper part black, composed chiefly of a very fine-grained micaceous mineral. Lower part laminated, with alternating light-gray and dark-gray layers. Hard, tough. In part resembles chert-siderite iron-formation.		15-25	
HANGING-WALL GRAYWACKE-SLATE SEQUENCE	Graywacke and slate	Eastern part of area: Massive dark-gray fine- to medium-grained graywacke; sideritic; thick-bedded to massive. Minor interbedded slate is dark gray to black, slightly graphitic and slightly sericitic. Western part of area: Massive light-gray to dark-gray medium-to coarse-grained graywacke with abundant kaolinized feldspar grains. Interbedded with thick beds of massive light- to dark-gray slate, generally sericitic.	400(?)	10-20 5-10	In general, hanging-wall graywacke is coarser-grained, more massive than footwall graywacke. May contain slate or chert fragments or visible feldspar grains never found in footwall graywacke. Nonfeldspathic types high in iron. Interbedded slates in general are not distinctive.
	Graywacke-chert breccia	Fragments of chert, siderite, and slate in a matrix most commonly of graywacke but in places dark slate. Massive, highly variable in thickness.	0-100		Distinctive rock where matrix is graywacke. Where matrix is slate, impossible to distinguish from footwall chert breccia except on basis of associated strata.
		UNCONFORMITY			
IRON-FORMATION	Slaty, upper unit (Included with hanging-wall strata on maps and sections)	Unoxidized: Dark, thin-bedded rock consisting of layers of graphitic slate, dark, impure siderite, and chert. Chert is dark, commonly occurs as irregular layers, lenses, or nodules. Locally uppermost part is a laminated graphitic pyritic slate. Thin layers of graywacke not uncommon. Oxidized: Thin banded red, green, gray, or buff slate with chert. Oxidation cuts across bedding in many places.	Range: 0-300 Average: 150	Unoxidized: 20-30 Oxidized: 25-50	Where unoxidized short runs may be difficult to distinguish from footwall graphitic slate. Sideritic layers distinctive, as are abundant chert nodules Where oxidized readily distinguished by color, slaty appearance, and chert nodules. Very rarely forms ore.
	Cherty, lower unit	Unoxidized: Interbedded dark chert and gray siderite. Layers typically 1/2 in. to 2 in. thick. Layers of sideritic slate not uncommon. Occasional partings of graphitic slate. Locally a breccia. Oxidized: Interbedded white chert and red or yellow iron oxides. Ore: Variable in character. May be soft red hematite retaining banded structure of iron-formation; bedded hard to soft yellow limonite; massive red hematite and limonite.	Range: 75-150 Average: 100	20-26 25-50 More than 50	Distinguished by thin banding; abundance of chert in definite, uniform layers; general absence of slaty material. Complex minor folding as seen underground in both "lower cherty" and "upper slaty" units characteristic and not common to any other unit.
FOOTWALL GRAPHITIC SLATE	Chert breccia	Angular to rounded fragments of dark chert in dark-gray, somewhat graphitic matrix. Chert fragments as much as 3 in. in length, commonly pyrite-rimmed. Where oxidized, rock may be indistinguishable from overlying iron-formation. Rock very massive.	Range: 0-15 Average: 5	20-25 (carbonate predominates over sulfide)	Difficult or impossible to distinguish from dark facies of breccia overlying the iron-formation except on basis of associated rock.
	Laminated graphitic slate	Unsheared: Thin-bedded to laminated, dark gray to black. Pyrite a major constituent but is rarely visible. Black, glossy graphitic streak. Chert not common, but noted as thin layers in a few localities. Sheared: Glossy black, parts on numerous, closely spaced, slickensided surfaces. Much more graphitic in appearance than unsheared rock.	Range: 5-25 Average: 10	[1]/ 18-23 (total iron)	Distinguished from graphitic slate in upper part of iron-formation by absence of siderite, scarcity of chert.
	Graphitic slate breccia "speckled gray"	Graphitic slate fragments in graphitic matrix. Massive, without discernible bedding.	Range: 5-25 Average: 10		One of best marker beds in district. Readily recognizable by massive character, slate fragments, absence of chert.
FOOTWALL SILTSTONE-SERICITIC SLATE SEQUENCE	Not sufficiently well explored to permit detailed subdivision	Consists mostly of massive, well-graded siltstone, and minor sericitic gray slate. Much of the siltstone is a "pseudoconglomerate" as a result of pre-lithification slumping and sliding of unconsolidated sediment.	Unknown. At least several hundred feet	6-12	Distinguished from younger graywacke by finer grain and absence of chert. Pseudoconglomerate structures distinctive.
		UNCONFORMITY(?)			
GREENSTONE		Massive, basic flows with interbedded agglomerates and tuffs, all strongly chloritized. Dark greenish gray. May be classified as "gray slate" in some older drill records.			Rock in northwest part of the map area may belong to this unit.

[1]/ Mostly in form of sulfide. In most company laboratories specimens are not roasted, and as a result the sulfide iron is not recovered. Analyses of the rock showing only "soluble iron" typically range from 2 to 6 percent.

COLUMNAR SECTION AND STRATIGRAPHIC CHART FOR THE NORTHERN PART OF THE IRON RIVER DISTRICT